

CONSTRUCTION VALUE ENGINEERING CONCEPT PROPOSAL  
MISSOURI DEPARTMENT OF TRANSPORTATION

080328-X05

Date 05/08/2008

Contract ID ~~080238-X05~~

Job No. J0I0978B

County Scott / Cape Girardeau

Route I-55

Original Bid Cost \$4,715,155.55

Contractor Collins & Hermann, Inc.

By Kevin Hermann

Designed By

Phone (314) 869-8000

VE 08-33

1. Description of existing requirements and proposed change(s). Advantages/Disadvantages

SEE ATTACHMENT

2. Estimate of reduction in construction costs.

\$227,001.27

3. Prediction of any effects the proposed change(s) will have on other department costs, such as maintenance and operations.

SEE ATTACHMENT

4. Anticipated date for submittal of detailed change(s) of items required by Section 104.6 of the Specifications.

05/08/2008

(date)

5. Deadline for issuing a change order to obtain maximum cost reduction, noting the effect of contract completion time or delivery schedule.

Cost savings

(date)

(effect)

6. Dates of any previous or concurrent submission of the same proposal.

4/29/08

(date and/or dates)

**Additional Comments:**

**\*\* Portion Below This Line To Be Filled Out by MoDOT \*\***

**Comments:**

*Recommend rejection of this proposal. See attached letter for reasoning.*

*Brian Holt*

Submitted By Resident Engineer

*5/22/08*

Date

**Comments:**

☐ Approval  
Recommended

☒ Rejection  
Recommended

*Mark Shelton by R. R. Sten*

District Engineer

*5-23-08*

Date

**Comments:**

*Concur w/ District*

*David D. Gorman*

☐ Approval

☒ Rejection

State Operations Engineer

*BAW*

*6-3-08*

Date

**Distribution:**

Resident Engineer, District Operations Engineer, State Operations Engineer

\*Value Engineering Administrator - \*MoDOT, P.O. Box 270, Jefferson City, MO 65102

Missouri  
Department  
of Transportation



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Brian Holt, PE, Resident Engineer



2007 Missouri Quality Award Winner

May 22, 2008

Kevin Hermann  
Collins & Hermann, Inc  
P.O. Box 38901-0901  
St. Louis, MO 63138

Dear Mr. Hermann:

Subject: VE Proposal Review  
J0I0978B  
Route I-55  
Scott & Cape Girardeau Counties

A complete review has been conducted of you VE Proposal to move the location of the guard cable from the offset specified in the contract. At this time, the proposal is rejected.

The offset specified in the contract is based on current FHWA testing and approval. Locations you have proposed have not been tested or approved by the FHWA, therefore, MoDOT cannot allow the placement of the post at any other location than what is specified by the contract. This is consistent with MoDOT's analysis and direction of cable median barrier and with the FHWA's test result of Gibraltar's system. In addition, there is no clear evidence that the cable will work in a location other than what is specified in the contract.

You mention that the existing grades are 6:1 or flatter. This is not the case throughout the project. The slopes are not consistent and vary any where from a 4:1 to a 6:1. In some areas, especially where the interstate has been overlaid recently, the slope with in the first few feet of the shoulder is around a 4:1 slope that transitions to a 6:1 slope. This is essentially a barn roof effect that could contribute to a vehicle leaving the ground as it departs the pavement, compressing the suspension on impact, and potentially under-riding the cable at the offsets provided in your proposal. This design issue was anticipated and addressed in the contract special provisions with the specification of a product system certified for a 4:1 slope and in the plan typical section with the specification of an offset of 4 feet from the shoulder.

1. Description of existing requirements and proposed change(s). Advantages / Disadvantages

**Existing Bid Requirements**

- 6' wide x 3" thick asphalt vegetative barrier placed adjacent to existing shoulder with the guard cable being placed 4' down the slope from the existing shoulder

ITEM	DESCRIPTION	QUANTITY	UNIT PRICE	EXTENSION
0020	Shaping Slopes, Class II	2,327	\$105.37	\$ 245,195.99
0030	Misc. Pavement for Vegetative Barrier	170,892	\$ 9.26	\$1,582,459.92
			<b>TOTAL</b>	<b>\$1,827,658.91</b>

**Proposed VE**

- 4' wide x 3" thick asphalt vegetative barrier placed either 1' up from ditch bottom or at least 8' up from ditch bottom (see attached drawings).
- Exception is roughly a 3 mile stretch from mile marker 89 to mile marker 91. That stretch to be installed on 6' wide x 3" thick asphalt due to the grade and width as shown on plan.

ITEM	DESCRIPTION	QUANTITY	UNIT PRICE	EXTENSION
0020	Shaping Slopes, Class II	134.85	\$105.37	\$ 14,209.14
0030	Misc. Pavement for Vegetative Barrier	108290.00	\$ 14.65	\$1,586,448.50
			<b>TOTAL</b>	<b>\$1,600,657.64</b>

**TOTAL SAVINGS \$227,001.27**

**Advantages:**

- Fewer nuisance hits
- Safer for maintenance worker
- Monolithic pour resulting in improved port/sleeve performance
- Less maintenance as compared to asphalt

**Disadvantages:**

- None

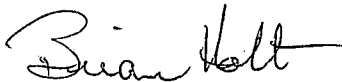
3. Prediction of any effects the proposed change(s) will have on other department costs, such as maintenance and operations.
- Concrete requires less maintenance as compared to asphalt
  - Concrete has a longer life span

Another consideration is that the potential safety benefit is lost for maintenance performing mowing and repair work from behind the barrier at the offsets provided in your proposal.

If testing data can be provided that supports the locations you have proposed, then we re-evaluate the VE proposal.

You have also requested to use a driven socket in lieu of the contract requirement of using a concrete socket. This request is denied. Using the driven socket in conjunction with the asphalt vegetative barrier will pose problems with maintaining the system. Re-compacting the soil around the socket would be made difficult because of the presence of the surrounding asphalt. After discussions with District Maintenance, it was concluded to be preferable to address the occasional cracked concrete socket than to further damage the asphalt barrier to re-compact around the driven sockets.

Sincerely,

A handwritten signature in cursive script that reads "Brian Holt".

Brian Holt, PE  
Resident Engineer

bh

Copy: File

# VALUE ENGINEERING CHECK SHEET

## TYPE OF WORK

(Check one that applies)

- ☐ Bridge/Structure/Footings
- ☐ Drainage Structures (RCP, RCB, CMP's, ect.)
- ☐ TCP/MOT
- ☐ Paving (PCCP, ect.)
- ☐ Grading/MSE Walls
- ☐ Signal/Lighting/ITS
- ☒ Misc. Guardcable and Vegetative Barrier

## SUMMARY OF PROPOSAL

(If needed, condense summary to a couple of lines)

Contractor wanted to relocate the guardcable and change the vegetative barrier.

## SCANNING OF DOCUMENT

If the proposal is large, please mark or make note, which pages need to be scanned into the database. If there are special instructions, make note of them here.

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